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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/893,619
Filing Date: June 29, 2001
Appellant(s): GRIFFIN, AMY R.

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GROUP 3600

Thomas J. D'Amico
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 9, 2005 appealing from the Office action mailed December 29, 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct. A discussion of the independent claims is found in the arguments section of the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. Appellants arguments regarding claim 12 are persuasive and the rejection is hereby withdrawn. The claim now stands as being objected to as being dependent upon a rejected claim.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,8-10,11,12,25,32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of Bressler et al. In regards to claims 1 and 25 Beach US 2,931,519 teaches an apparatus for positioning an object comprising:

a first section (10) having a lifting mechanism (12) capable of movement in a vertical direction;

a second section (11) disposed over said lifting mechanism (12) and capable of moving with said lifting mechanism, said second section having a first sliding

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mechanism, said first sliding mechanism comprising a block (113) and a lead screw (110) for moving said block; and

a third section (13) disposed over said sliding mechanism and attached to said block, capable of moving in response to said lifting and sliding mechanisms, wherein said third section has a surface (a) for supporting an object. Beach does not teach the slide mechanism as having rails and slider blocks. Bressler et al. US 6,136,375 teaches a linear slide assembly comprising :

a first section (22) with a pair of guide rails (24);

a second section (32) with guide blocks (30);

wherein said guide blocks engage said rails;

a lead screw actuator (64) for moving the second section relative to the first section in a direction parallel with said guide rails. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Beach with the guide rails and blocks taught by Bressler et al. in order to keep the first and second sections in alignment at all times while allowing for linear adjustments as needed.

In regards to claims 8 and 9 Beach further teaches that the lifting section comprises hydraulic cylinders (75) and a source of pressurized hydraulic fluid (96).

In regards to claims 10 and 11 Beach also teaches the apparatus as having wheels (18) that allow the apparatus to move in a horizontal direction that is perpendicular to said first horizontal travel direction of said third section, and that wheels further comprise a clearance between said first section and an underlying

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surface, whereby said apparatus can clear obstacles when moving in any horizontal direction.

In regards to claims 32 and 33 Beach further teaches that the lifting section comprises hydraulic cylinders (75) and a source of pressurized hydraulic fluid (96).

Claims 2-4,7,26-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of Bressler et al. as applied to claims 1 and 25 above, and further in view of Mills et al. Beach and Bressler et al. teach the limitations of claims 1 and 25 as above, they do not teach using a jack screw or a pneumatic device as a lifting means. Mills et al. US 4,461,455 teaches a device for lifting aircraft engines wherein a first lift assembly is a series of jack screws (64) and a second lift assembly is a series of pneumatic lifts (54,120) wherein the two lift assemblies work in tandem to raise the load to its proper position, Mills also teaches providing a pressurized gas source for pneumatic lifting assemblies (54,120).

It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the lift assemblies taught by Mills et al. in the device taught by Beach in order to allow the apparatus to align the object being lifted with its intended receiver in a manner that minimizes the chance of damage to the object while it is being mounted.

Claims 13,17,19,20-24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of Mills et al. and further in view of Nemoto. In regards to 13,17, 19 and 34 Beach teaches an apparatus for positioning an object comprising:

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a base section (10) having a lifting mechanism (12) capable of movement in a vertical direction;

a first section (11) disposed over said lifting mechanism (12) and capable of moving with said lifting mechanism, said second section having a first sliding mechanism, said first sliding mechanism comprising a block (113) and a lead screw (110) for moving said block; and

a second section (13) disposed over said sliding mechanism and attached to said block, capable of moving in response to said lifting and sliding mechanisms, wherein said second section has a surface (a) for supporting an object. Beach does not teach the lifting mechanism being a combination of a manual jack screw and a pneumatic lift device. Mills et al. US 4,461,455 teaches a device for lifting aircraft engines wherein a first lift assembly is a series of jack screws (64) and a second lift assembly is a series of pneumatic lifts (54,120) wherein the two lift assemblies work in tandem to raise the load to its proper position, Mills also teaches providing a pressurized gas source for pneumatic lifting assemblies (54,120). Mills et al. do not teach the jackscrews as being manually actuated. Nemoto US 6,271,657 teaches a lifting device (30) for a semiconductor test head wherein a screw (11) is manually turned by crank (31) to cause the device to lift an object placed upon it.

It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Beach with the lift assemblies taught by Mills et al. and to operate them manually as taught by Nemoto in order to allow the apparatus

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to align the object being lifted with its intended receiver in a manner that minimizes the chance of damage to the object while it is being mounted.

In regards to claims 20 and 21 Beach further teaches that the lifting section comprises hydraulic cylinders (75) and a source of pressurized hydraulic fluid (96).

In regards to claims 22 and 23 Beach further disclose the apparatus as having wheels (18) that allow the apparatus to move in a horizontal direction that is perpendicular to said first horizontal travel direction of said third section, and that wheels further comprise a clearance between said first section and an underlying surface, whereby said apparatus can clear obstacles when moving in any horizontal direction.

In regards to claim 24 Beach further teaches providing a third section (132) for moving a load in a transverse direction in relation to the first sliding section.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beach, Mills et al. and Nemoto as applied to claim 17 above, and further in view of Bressler et al. Beach, Mills et al. and Nemoto teach the limitations of claim 17 as above they do not teach the slide mechanism as having guide rails and guide blocks.

Bressler et al. teaches a linear slide assembly comprising :

a first section (22) with a pair of guide rails (24);

a second section (32) with guide blocks (30);

wherein said guide blocks engage said rails;

a lead screw actuator (64) for moving the second section relative to the first section in a direction parallel with said guide rails. It would have been obvious to one of

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ordinary skill in the art, at the time of invention to provide the device taught by Beach, Mills et al. and Nemoto with the guide rails and blocks taught by Bressler et al. in order to keep the first and second sections in alignment at all times while allowing for linear adjustments as needed.

Claims 35,39,40,41,44, and 45 are rejected under 35 U.S.C. 103(a) by Beach in view of Mills et al. and further in view of Nemoto. In regards to claims 35,41,42 and 44 Beach US 2,931,519 discloses the method of positioning an object, comprising the steps of:

- providing a table having a base section (14), a middle section and a support section (60) adapted to move vertically and horizontally;
- placing an object (L) on said support section;
- moving said table to a desired destination for said object;
- operating a provided lift mechanism to move said support section vertically;
- operating a provided slide mechanism to move said support section horizontally;
- said object being positioned in a desired location by said moving and operational steps;
- manually operating a hydraulic system to lift the device.

Beach does not teach the lift mechanism as using pneumatic lift devices. Mills et al. US 4,461,455 teaches a method of lifting aircraft engines wherein a first lift assembly, a series of jack screws (64) and a second lift assembly, a series of pneumatic lifts (54,120) are provided, wherein the two lift assemblies work in tandem to raise the load to its proper position, Mills also teaches providing a pressurized gas

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source for pneumatic lifting assemblies (54,120). Mills et al. do not teach the jackscrews as being manually actuated. Nemoto US 6,271,657 teaches an apparatus for positioning test heads where the step of actuating a lift mechanism comprises manually rotating an input shaft attached to the jacking mechanisms. It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the methods of moving an object taught by Beach with the lift methods taught by Mills et al. and to operate them manually as taught by Nemoto in order to allow the apparatus to operate independently of any power source, thereby allowing the apparatus to work where no immediate power source is available, as well as providing a combination of lift devices between the base frame and the middle frame.

In regards to claims 39 and 45 beach further discloses the steps of operating the slide mechanism comprises manually rotating a shaft attached to a lead screw.

In regards to claims 40 and 46 Beach further discloses the step of moving the table comprises rolling said table utilizing wheels (18).

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beach in view of Mills et al. and Nemoto as applied to claim 41 above, and further in view of Shiiba et al. Beach, Mills et al. and Nemoto teach the limitations of claim 41 as above, they do not teach the lift mechanism as being pneumatically actuated. Shiiba et al. US 6,643,630 teaches a lift device whose operation comprises the step of supplying a pressurized gas to a gas cylinder assembly. It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the step of operating the lift mechanism taught by Beach, Mills et al. and Nemoto by providing gas to the actuation

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system as taught by Shiiba et al. in order to make use of a readily available source of power that requires no special knowledge to tap into and use.

(10) Response to Argument

(A) Regarding the argument against the rejection of claim 1 that Beach does not teach a sliding mechanism because the actuation means is part of the sliding mechanism the examiner disagrees. The appellant is correct that the sliding assembly (13) of beach includes the block (113) and a lead screw (110), but this does not preclude the sliding portion of the assembly from being located above the actuation portion of the assembly as claimed. In the instant application the actuation block (198) is fastened to the sliding member (40) to form an assembly that is placed upon frame members (180). As such it forms an assembly much like that taught by Beach.

Regarding the argument against the combination of Beach and Bressler as they are not analogous art, it is noted that both references teach using a linear slide to precisely position a sliding element. As such the references are both dealing with sliding a platform, with a difference in the guide means, but they are dealing with a similar problem by using different types of equivalent structures in the slide assemblies. As appellant concedes the structures in question are equivalent the examiner believes one of ordinary skill in the art would know this. Further Bressler was used to teach blocks, merely because the references are moving different types of heavy equipment does not mean they are not analogous.

Regarding the motivation to combine Beach and Bressler the Bressler reference is added as a teaching to show that the sliding portion of the Beach reference need not

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be fully around the guide rail to maintain adequate alignment of the slide mechanism. Thus the teachings of the Bressler reference show a guide mechanism that can operate in a device with no underneath clearance as it needs none, thus requiring less vertical space for the linear guide and slider. Thus the motivation to combine is the vertical space savings in providing a slide block arrangement over a tube type slider as taught by Beach.

There are no further arguments for claims 8-11 and they are considered properly rejected as in the last office action.

Regarding the arguments for claim 12 the appellants arguments are persuasive and the previous rejections have been withdrawn.

The arguments for claims 25,32 and 33 rely on the above arguments and are also considered properly rejected as argued above in regards to claim 1.

(B) Regarding the combination of Beach, Bressler and Mills for the rejection of claims 2-4,7,26-28 and 31 the appellant argues that there is no motivation to combine Mills with the Beach reference. The motivation can be found in Mill where they teach using the pneumatic lifts to help align the aircraft engines when installing them while also helping to lessen the chance of damage to the aircraft or the engine. The self limiting of the force of the device taught by Mills is what prevents damaging of the engine or aircraft, this ability is absent in the Beach reference and one of ordinary skill in the art would be interested in lowering the chances of damaging an expensive aircraft or its engine during routine maintenance. Thus Mills does provide motivation for the

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modification of the Beach reference, as such the examiner holds the rejections of claims 2-4,7,26-28 and 31 to be proper.

(C) Regarding the rejection of claim 13 with the combination of Beach, Mills and Nemoto the appellant argues that the Nemoto reference is not analogous to Beach and Mills. Again all three references are directed to a device for lifting heavy loads into a precise position relative to a mounting structure for the load. As such they are analogous. As far as gymnastics the examiner is only making rejections that he believes are valid. As far as using the instant invention as a "road map" the examiner must use the instant invention as a basis of search in order to find relevant art. As such the examiner has only used the claimed subject matter as a search area and not as a map for making gymnastic type rejections.

Regarding the motivation to combine Beach and Mills, this is shown above and briefly the ability to move a load without damage is motivation to apply the teachings of Mills to those of Beach. Regarding the motivation to further add Nemoto to the rejection Nemoto teaches prior art lift mechanisms that can be powered by hand via wheel (31h) (figure 6) or a second embodiment (figure 5) where the lift is motor powered. They further teach that by adding air cylinders (4) to the lifting device will allow the device to lift a heavier head with only manual power that is not geared down. Thus the motivation to combine comes from the teaching of Nemoto that a jack screw with pneumatic cylinder assist can be manually actuated faster than the prior art while requiring no source of power save the operator. In adding the Nemoto reference the present drive

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need not be replaced, but rather augmented with a manual actuator that allows the device to function if power is not available.

Claims 17 and 19-23 are not argued separately and are considered proper for the reasons stated above.

Regarding the argument against the rejection for claim 24 the claim requires only that the third section is disposed over the second section. While the entire actuation mechanism of Beach is not above the second sliding section this limitation is not positively recited in the claim. The third section includes elements 140 and 135 which are partially disposed over the second section 115. As such the third section (132) is disposed above the second section as required by the claim.

Regarding the rejection of claim 34 the limitation is that the air cylinders assist the jack screws in a lifting device. The air bellows taught by Mills assist the jack screws when lifting an engine. As such they meet the limitation in question. As stated above for the arguments against the rejection of claim 1 Beach does teach the plate, block and actuator as claimed. As such the references encompass the claimed subject matter and are properly combinable as shown above, thus the rejection of claim 34 is still considered valid by the examiner. Regarding the use of the word tandem, this is not a limitation in the claims, but rather a phrase applied by the examiner. The two lift mechanisms do assist each other which meets the limitation of the claims as appealed.

Regarding the arguments that Beach does not teach a block, the block the examiner is refereeing to in this instance is element 113 as seen in Figure 9 of the Beach reference.

(D) The arguments against the rejection of claim 18 are against the modification of Beach by adding the sliding blocks as taught by Bressler. This has been addressed in the arguments for claim 1 above and the same reasoning applies to the rejection of claim 18. As such the claim is still considered properly rejected.

(E) Regarding the rejection of claim 35 again the limitation comprises having the pneumatic means assist the jackscrews in the lifting and lowering mechanism. As such the limitation is met by Mills as the pneumatic means they teach assist a set of jack screws for lifting a load. Nemoto also teaches using a set of cylinders to assist in raising a manually operated lifting device. As argued above by the examiner the references are properly combinable and the claim language only requires the pneumatic actuator assist the jack screws, therefore the rejections of claims 35,39 and 40 should be upheld.

Regarding the arguments for claims 41,42 and 44-46 the combination of the references are proper as shown above. As for the limitations of jack screws with pneumatic cylinders not being taught, this limitations is taught by Nemoto at column 14 lines 11-31. Nemoto does not teach the intermediate platform, but the main reference Beach does. As such all limitations of the claims are met by the references.

(F) Regarding the modification of Beach, Mills and Nemoto with the Shiiba reference, the Shiiba reference is used to positively cite providing a pressurized gas to a lifting device. This limitation is not explicitly taught by the Beach, Mills or Nemoto reference although it is inherent in the Mills reference. Thus the combination is used to

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provide a positive teaching of a limitation that is inherent in another reference, and therefore would have been obvious to one of ordinary skill in the art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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CAF 10-31-05

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